

--14. (once amended) A package for optoelectronic device comprising:

A4
B3
an upper insulating substrate;

a lower insulating substrate;

a through hole in said upper insulating substrate;

an optoelectronic device mounted on said lower substrate inside said through hole; and

a metallic base plate inserted between said optoelectronic device and said lower substrate to enhance light reflection.--

Please rewrite claims 16 and 17 as follows:

B4
A5
-- 16.(once amended) A package for optoelectronic device comprising:

an upper insulating substrate;

a lower insulating substrate;

a through hole in said upper insulating substrate;

an optoelectronic device mounted on said lower substrate and inside said through hole; and

metal lining coated over the wall of said through hole to enhance light reflection.

17. (once amended) The package as described in claim 14, further comprising at least two metallic base plates inserted between said optoelectronic device and said lower substrate to enhance light reflection.--

Please add claim 19 as follows:

A6
--19. The package as described in claim 14, wherein said through hole is of conical shape.--

REMARKS

Claims 1, 5 and 13 have been canceled. Claims 2, 6, 7, 9, 14, 16 and 17 have been rewritten. Claim 19 has been added.

The Examiner rejected claims 1-4, 6, 9-11, 13 and 15-18 under 35 U.S.C. 102(e) as being anticipated by Sasano (U.S. 6,313,525), citing that Sasano disclosed in figure 1: "...the steps of forming a through hole below layer 9 in an upper insulating substrate...". This is not what the applicant claims, because claims of this invention all refers to a through hole in the upper layer not below the upper layer. The substrate which Sasano disclosed in figure 1 is a single substrate without an upper substrate and a lower substrate, i.e. not a doubled substrate as the present invention discloses. Perhaps the Examiner refers to Sasano's figure 4 where a through hole exists inside the layer c and the chip f is mounted in the lower layer b. However, the through hole in Sasano's figure 4 is not of conical shape, nor lined with metal coating to increase reflection, and the chip is not mounted on a metal plate to increase reflection.

These features have been used to limit the amended claims. Therefore, the generic method claims 1 and the generic apparatus claim 14 have been canceled. Claim 2 has been rewritten as an independent method claim to limit the through hole to be of conical shape. Other features are used to further limit the depend claims 3-4 and 6-12 of the independent claim 2. Similarly, claim 14 has been written as an independent apparatus claim to limit the chip to be mounted on a metal plate to increase reflection. Claim 16 has been rewritten as an independent claim to limit the wall of the through hole to be coated with metal to increase reflection. With these limitations, it is believed that the amended claims are no longer anticipated by Sasano.

The Examiner rejected claim 5 under 35 U.S.C 103(a) as being unpatentable over Sasano. Claim 5 has been canceled.

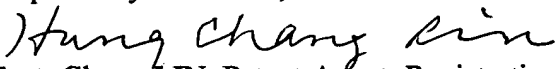
The Examiner rejected claim 7 and 14 under 35 U.S.C 103(a) as being unpatentable over Sasano as applied to claim 1, and further in view of Komoto et al. Claim 7 has been amended to be dependent on claim 2, which has been rewritten to overcome the rejection as explained two paragraphs before. It follows that the dependent claim 7 of claim is no longer unpatentable. Similarly, claim 14 has been rewritten to overcome the rejection as explained two paragraph before. It follows that claim 14 is also no longer unpatentable.

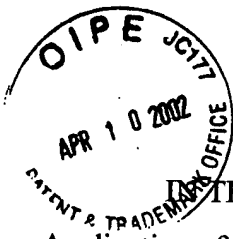
The Examiner rejected claims 8 and 12 under 35 U.S.C. 103(a) as being unpatentable over Sasano as applied to claim 8 above, and further in view of Kamizato et al. Since claims 8 and 12 have been amended to depend on the rewritten claim 2, which is believed to be no longer anticipated, it follows that the dependent claims 8 and 12 are also no longer unpatentable.

Claim 19 has been added to feature the conical shape of the through hole. The claim is supported in the specification in the description of figures 2-4. No "new matter" has been added.

In view of the above, it is submitted that claims 2-4, 6-12, 14-18 as amended, and claim 19 as added are in condition for allowance. Reexamination of the rejections is requested. Allowance of claims 2-4, 6-12 and 14-19 at an early date is solicited.

Respectfully submitted,


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2814

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Bily WANG, Bill CHANG and Yuan LEE

Art unit: 2814

Serial No. 09/922,688

Examiner: FARAHANI, Dana

Filed: Aug. 7, 2001

For: LED FOCUSING CUP IN A STACKED SUBSTRATE

AMENDMENT (marked-up version)

Commissioner of Patents
Washington, D.C. 20231

Sir:

In response to USPTO communication dated March 4, 2002, please amend the application as follows:

IN THE CLAIMS:

Please cancel claim 1.

Please rewrite claim 2 as follows:

--2. (once amended) A method [as described in claim 1] for fabricating a focusing cup for an optoelectronic device package comprising the steps of:
forming a through hole in an upper insulating substrate, wherein said through hole is of conical shape;
stacking said upper insulating substrate over a lower insulating substrate; and
mounting an optoelectronic device on said lower substrate inside said through hole.--

Please cancel claim 5.

Please rewrite claims 6 and 7 as follows:

--6. (once amended) The method as described in claim [1] 2, wherein said optoelectronic device has two top electrodes wire-bonded respectively to two bonding pads mounted on top of said upper substrate.

7. (once amended) The method as described in claim [1] 2, further comprising a step of inserting a metallic plate between said optoelectronic device and said lower substrate to enhance light reflection.--

Please rewrite claim 9 as follows:

--9 (once amended) The method as described in claim [1] 2, further comprising the step of lining the wall of said through hole with metal coating to enhance light reflection.--

Please cancel claim 13.

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Please rewrite claim 14 as follows:

--14. (once amended) A package [as described in claim 13, further comprising] for optoelectronic device comprising:
an upper insulating substrate;
a lower insulating substrate;
a through hole in said upper insulating substrate;
an optoelectronic device mounted on said lower substrate inside said through hole; and
a metallic base plate inserted between said optoelectronic device and said lower substrate to enhance light reflection.--

Please rewrite claims 16 and 17 as follows:

-- 16.(once amended) A package [as described in claim 13] for optoelectronic device comprising:
an upper insulating substrate;
a lower insulating substrate;
a through hole in said upper insulating substrate;
an optoelectronic device mounted on said lower substrate and inside said through hole; and
metal lining coated over the wall of said through hole to enhance light reflection.

17. (once amended) The package as described in claim [13] 14, further comprising at least two metallic base plates inserted between said optoelectronic device and said lower substrate to enhance light reflection.--

Please add claim 19 as follows:

--19. The package as described in claim 14, wherein said through hole is of conical shape.--

REMARKS

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layer b. However, the through hole in Sasano's figure 4 is not of conical shape, nor lined with metal coating to increase reflection, and the chip is not mounted on a metal plate to increase reflection. These features have been used to limit the amended claims. Therefore, the generic method claims 1 and the generic apparatus claim 14 have been canceled. Claim 2 has been rewritten as an independent method claim to limit the through hole to be of conical shape. Other features are used to further limit the depend claims 3-4 and 6-12 of the independent claim 2. Similarly, claim 14 has been written as an independent apparatus claim to limit the chip to be mounted on a metal plate to increase reflection. Claim 16 has been rewritten as an independent claim to limit the wall of the through hole to be coated with metal to increase reflection. With these limitations, it is believed that the amended claims are no longer anticipated by Sasano.

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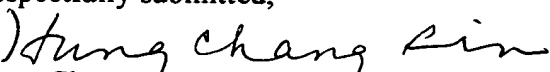
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